Learning through Games in Museums

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Museums as settings for games

• Museums play important role as sites of informal and lifelong learning
• Proliferation of game culture in modern societies
• Games are effective ways to learn in an informal way both for young visitors and for adults

The visitor: gaming culture

http://www.ted.com/talks/jane_mcgonigal_gaming_can_make_a_better_world.html
The museum

The Museum is transforming from Acropolis…

… into Agora

collaborative: with other institutions, third parties, audience

Nancy Proctor, 2001
Gaming the Future of Museums

• “We have all this pent-up knowledge in museums, all this pent-up expertise, and all these collections designed to inspire and bring people together.

• The museum community has a kind of ethical responsibility to unleash it and contribute to the happiness of mankind”.

• ...this may be done through games, as they do all the things we need to be happy: satisfying work, the experience of being good at something, time spent with people we like, and the chance to be a part of something bigger.

J. McGonigal

American Association of Museum’s (AAM) talk
Games in museums: trends

• Static games
  - Onsite games
  - Web based games
  - Multiplayer games

• Mobile games
  - Adopting board games
  - Narratives in games

• The social dimension
  - the museum as social medium
  - Games for crowd sourcing in museums
Onsite Games

Interactive exhibits
Play the orchestra conductor at Mozart’s house in Vienna
http://dananderica2010.blogspot.com

http://dananderica2010.blogspot.com/

Group activity:
A quiz discussion table at the London Science Museum
The web: to video games and beyond

In search for the learning benefit and relation to the museum collection

Games discussed:
- The Parthenon Frieze
- The Getty games
- The London Science Museum
- Smithsonian American Art Museum
Play with the Frieze

• "Play with the Frieze" is intended for children. It begins with an introduction where the user can understand very quickly what the frieze was, where it was, what it represented, and he can see a number of statistical facts.

• They are games of memory and they are designed to attract children to closer observation of the details of the frieze.

• In this same category of games, the children are asked to exercise their powers of observation, they are asked to put together a puzzle.

• The game ... is intended to enliven the relief scenes of the frieze and to help the children to imagine their colours.

• In the game ... they try to find the correct position of the 16 blocks of the West Frieze (compare images).

• In the games ..., the children have to match text with picture.

The Parthenon Frieze

Most scholars who have studied the west frieze believe that it depicts the preparation of the Panathenaic procession that took place in the Kerameikos. Blocks with peaceful scenes are interposed with those bearing scenes of action. On this side of the building, each scene unfolds within the borders of a single block, thus raising the possibility that it may have been carved on the ground and subsequently mounted on the building.

The west frieze is made up of blocks I and XVI, three others, because they are also west blocks of the north side. Its removal from the west frieze is exhibited in the British Museum, except for one which is now in the British Museum.

Study the west frieze and try to compose it, placing the sixteen blocks in the correct sequence.

http://www.parthenonfrieze.gr/#/play
W VII. Two horsemen are depicted with their horses galloping. Over the short chiton they wear one a chlamys, the other an animal skin blown back by the wind. They have approximately the same pose, looking ahead toward the finish.

http://www.parthenonfrieze.gr/#/play
The Panathenaia was a very ancient festival at Athens, dedicated to the patron deity Athena. The event included many wrestling holds and was divided into "upright" wrestling, and wrestling "on the ground". The winner was the one who was the first to throw his opponent three times. The palaestra took its name from the ancient Greek word for wrestling, "pale".

Prizes:
- Boys: 30 Panathenaic Amphoras
- Youths: 40 Panathenaic Amphoras
- Men: 60 Panathenaic Amphoras

http://www.parthenonfrieze.gr/#/play
Match the faces

meeting the figures of the procession

Taking part in the procession are 378 figures, gods, heroes, officials, men and women, young and old. Their faces are idealistic and calm, many of them resemble each other. Yet there is great variety in the movements and poses of individual figures, as in the garments.

http://www.parthenonfrieze.gr/#/play
Puzzle: the hidden chariot

http://www.parthenonfrieze.gr/#/play
Getty Games: Jigsaw Puzzles

Use your mouse to grab the jigsaw pieces and assemble the puzzle.

Dutch artist Jacob van Hulsdonck painted *Still Life with Lemons, Oranges and a Pomegranate* in about 1620–1640.

http://www.getty.edu/gettygames/
Getty Games: The details detective

http://www.getty.edu/gettygames/
Getty Games: card matching

Match Madness

Be a memory master with this card-matching game. Pick a game:

Match Exact

Match Halves

Word & Image

Match Alike

http://www.getty.edu/gettygames/
Getty Games: spot the differences

http://www.getty.edu/gettygames/
• Various strategies may be employed not intended by the designer

http://www.getty.edu/gettygames/
Smithsonian American Art Museum:
Meet me at midnight

http://americanart.si.edu/exhibitions/online/night/default_flash.html
Cartoon-like narrative with limited interactivity with the collection

http://americanart.si.edu/exhibitions/online/midnight/default_flash.html
Science museum games

Scenario based problem solving

PlayRizk: video game culture

Competition and community building: 
Connect with facebook for high scores

Museums in Virtual Worlds: Whyville

Welcome to the Getty Museum in Whyville!

Visit the Getty Museum in Whyville where you can play games and learn about art from anywhere in the world! The Getty Museum in Whyville is a virtual companion to the renowned Getty Center in Los Angeles.

Play ArtSets with friends and match art according to subject and medium. Travel the Whyville virtual globe and explore the history of art with the Getty Treasure Hunt! The Getty in Whyville is where you can get together with friends to chat art, play art, and get inspired to make your own art!

Our Sponsors:
The J. Paul Getty Trust

http://www.whyville.net/smmk/top/gates?source=getty
WWO: A game about the future: narrative and simulation

WORLD WITHOUT OIL simulated the first 32 weeks of a global oil crisis. It established a citizen “nerve center” to track events and sharesolutions. Anybody could play by creating an email or phone call, or for advanced users a blog post, video, photo, etc. – the imagined reality of their life. The game encouraged excellence with daily awards and recognition for authentic and

http://worldwithoutoil.org
On educational value

.... the educational value of many of these games is not always clear, but what is clear is that kids are becoming more familiar with works of art, they are learning to look and think critically about art, and they are associating museums and art with fun.

[from a review in futuresoflearning.org]

http://futuresoflearning.org/index.php/Firda_08/tag/games+in+museums
Mobile games

New interactivity with objects and places in museums and beyond
Visit as a game: the cockroach tour

http://www.sciencemuseum.org.uk/ClimateChanging/Events/CockroachTour.aspx
Alternate reality games

• An **alternate reality game (ARG)** is an interactive narrative that uses the real world as a platform, often involving multiple media and game elements, to tell a story that may be affected by participants' ideas or actions.

• A **live action role-playing game (LARP)** is a form of role-playing game where the participants physically act out their characters' actions. The players pursue goals within a fictional setting represented by the real world, while interacting with each other in character.
ARGs in Museums: Ghost of a Chance

• Players were asked to interpret weekly challenges by creating and mailing artifacts to the Luce Foundation Center.

• Entered into the museum’s collection, these items represented a player-generated gallery collection that unlocked further clues in the game’s narrative.

http://ghostsofachance.com/
Ghost of a Chance

Smithsonian American Art Museum User-submitted images from the "Ghost of a Chance" interactive multimedia game at the Smithsonian American Art Museum
Museum space interaction modalities

QR codes (quick response codes)

(From Derby Museum, Connection to QRPedia)

NFCtags (Near Field Communication)

Source: NFC at Museum of London, Nokia (Youtube)
Museum space interaction modalities

Scan an image (GoogleGoggles)

Source: Google Goggles at the Getty Museum (Youtube)

Gesture-based interaction

Source: RExplorer (Youtube)
Ways for communicating instructions to players and progressing narration

- Ruyi from whaiwhai (youtube, TGR)

http://www.whaiwhai.com/en
Place-based simulation games: Environmental Detectives

A place-based game created by MIT targeted at high school and university students. Students played the role of environmental engineers presented with an environmental emergency. The goal was to locate the source of a spill, identify the responsible party, design a remediation plan, and brief the authorities on any health and legal risks—all within two hours.
MuseumScrabble: linking exhibits

• Task to build connections between exhibits and themes/concepts that can be linked to more than one exhibits with different strength according to its relevance to the theme

• The concepts may be embedded in a narrative that the players have to follow

• Game is played by groups playing against each other

• Players fight for resources (exhibits) as they capture the exhibits not allowing the opponents to use it.
MuseumScrabble
link exhibits to themes/concepts
The museum as a social medium

Players roles: they can comment, contribute content, change the game rules or develop new games, discuss in a community about tricks and cheats
Place-based connection to exhibit’s blog through QR codes

Fenimore Art Museum
OOKL mobile app

20,000 INTERESTING PLACES TO VISIT RIGHT IN YOUR HANDS

the mobile app for culture lovers

Get an OOKL Love Culture app today - it’s FREE. Now available on Apple and Android.

WHAT’S ON AROUND YOU
Looking for something interesting to do? The OOKL Love Culture app, available in the iPhone app store and the Android Marketplace, gives you instant access to more than 20,000 cultural venues at your fingertips. Discover what’s on at your local museum, art gallery, historic house, zoo, botanic garden, religious site and much more.

GET THE GUIDE
Want to know more about the objects in a cultural venue? Want to take a tour? Some participating venues have created multimedia guides that give you access to their collections, interactive trails and current events. Multimedia guides are available on the iPhone and Android - other types of phones coming soon.

http://www.ooklnet.com
Tell your own story

Hi, I'm...

If you want to do any writing...

No, we're going to talk about it

Walking through the building to get first SMS mission outside

Is this to help with the oxygen from the plants?

Making observations in architecture

I am like a rooftop garden, but I would be very difficult to mow or dig. Planted with grass, mosses and flowering plants, it helps fight the battle against global warming! Spot me from the top floor of the Exchange building!

Do I just type it in?

First SMS received

I'm like a rooftop garden...

The exchange building, so we got to go out...

Running off to solve the first mission

It's quite a strange message though.

Thought it...

Shall we take a photo?

What is it

Wait, you've got long legs...

Replies to 1st mission

Insulation...

We got another one, it says take pictures of...

Posts photo to OOKL

OOKL photo

Found sedum roof

Discussing the environmental relevance of a roof garden

No SMS mission response
ARE YOU PASSIONATE ABOUT A LOCAL VENUE?

BECOME A CITIZEN CURATOR

WHAT'S A CITIZEN CURATOR?
It's a bit like Wikipedia except focused on capturing digital content relating to objects in cultural places. You may have a real passion for a local venue and have a great deal of knowledge about their collection. Now you can use the OOKL platform to create the content and submit it to the venue so it can be shared with the world.

WHO CAN BE A CITIZEN CURATOR?
The project is open to anyone - from a student seeking valuable CV building experience to a retired person looking to give something back to the community. All that really matters is that you must have a deep interest for the subject matter and be able to write clearly and effectively.
A city game with contribution of tasks/riddles by the players: Invisible City

Mission tasks may be contributed through a web site (e.g. a school teacher can design a specific version of the game for a school party)

[Sintoris et al. 2011 ]
Player-created/adapted Games

By developing their own Games students can show what they have learned, and they can also “explore various hypotheses” using the game (Klopfer, 2008).

User configuration of game elements is a tool for learning (Yiannoutsou et al. 2011).

Yiannoutsou N., Sintoris C., Avouris N, End User configuration of game elements: Game construction as learning activity, IS-EUD 2011
New authoring tools are needed to involve players in game creation adaptation/ e.g. Taleblazer

• TaleBlazer is a new rich Internet application from MIT's STEP lab to author smartphone location-based augmented reality (AR) games. For location-based AR game building.

• Features:
  – Visual blocks-based scripting
  – Interactive data layers and sampling - create models for player exploration and discovery of scientific topics.
  – Conditional dialog creator - interact with characters in new ways

http://education.mit.edu/projects/taleblazer
Bending the rules: Cheats and tricks
(...finally a way to have a decent salary!)

http://kewlwhyvilletricks.webs.com/
Harnessing the social power: Crowdsourcing games in museums

• **Crowdsourcing** is the act of sourcing tasks traditionally performed by specific individuals to an undefined large group of people or community (crowd) through an open call
Crowd sourcing tasks

• **Stating preferences**, voting on interesting objects, comments etc.

• **Tagging**: unstructured text associated with objects

• **Debunking**, criticizing: arguing against other peoples’ ideas, tags etc.

• **Recording personal stories**: personal memories associated to a museum object

• **Linking objects** or categorising: grouping of objects or associating them with themes (e.g. card sorting, museumscrabble)

[M.Ridge, Everyone wins: Crowdsourcing games & Museums, MuseumNext, May 2011]
Brooklyn Museum

Collections: Freeze Tag!

2,631 tags in our collection have been challenged. Decide their fate by playing Freeze Tag!

Here's how this works: you'll be presented with tags that have been flagged for removal by other posse members. Your job is to provide a second opinion about the relevance of the tag. Consider these examples as guides:

- Limestone
- Buddha
- statue
- headless
- fabric
- africannart
- krishna

- messy
- American
- Face
- Figure
- Abstract
- warhol
- european

- modern
- chair
- rocker
- classic
- furniture
- bed
- highchair
Steve tagger

Welcome to the steve tagger!
You've found the steve tagger, a place where you can help museums describe their collections by applying keywords, or tags, to objects. To tag an object, you'll need to log in (you can do this using your Google or Yahoo or OpenID login, or by creating an account). Once you've done that, just choose an object by clicking on the title in the thumbnail and begin tagging.

You can also use the tagger application to browse objects or tags, either randomly (the default setting) or by filtering on institution. Look around a bit, and feel free to let us know what you think by writing steve (at) steve (dot) museum.

Finally, this space brings together objects from many of steve's project partners and showcases the functionality of the steve software. But this isn't the only place where you can see the steve software in action. We're currently working with a number of museums to help implement steve tagging on their own websites (or in their galleries), since our goal is to make tagging easy to use for museums of all sizes and types. We'll be posting links here soon to other tagging opportunities that take advantage of the steve software.

more

Random Works

http://tagger.steve.museum/
http://tagger.steve.museum/
Dora’s lost data

Museum Metadata Games
Play games, make museums better

Welcome | Dora’s lost data | Donald’s detective puzzle | Tag the object | Example tags/facts | Contact | About/FAQ | T&C

Dora’s lost data

"Hi, my name is Dora, and I’m a junior curator. It’s my first day and I’ve made a big mistake - I accidentally deleted all the information we were going to add to our collections online. I need to re-label them, and quickly...

Can you help? Add words about the thing in the picture that would help someone find it on Google - how it looks, what does, who might have used it - anything you can think of."

Add words (tags) to describe this object

Tags

Tip: separate each tag with a comma, like this: tag, label, a phrase, name, names.

Not sure about this object? Get a different object, it won’t affect your points!

Tip: save this URL if you want more time to think or research: http://museumgam.es/dora/

http://museumgam.es/dora/
Crowdsourcing games

• They are fun and engaging
• They are productive
• Have high learning potential with sense of ownership of new knowledge (information and skills)
• The museums learn too and adapt to their audience
• Help players acquire, test and master new skills

[M.Ridge, Everyone wins: Crowdsourcing games & Museums, MuseumNext, May 2011]
Summary

• Games enrich visitor experience in museums engaging them, making them more active.
• However, the educational value of games, especially traditional video games, is questioned.
• Mobile games with support of technology may increase interaction with exhibits and have high learning potential.
• The social dimension in museum games is becoming more relevant, as players may contribute content, adapt the games, build new games, cheat, even help the museum...
• Crowdsourcing games can be of benefit to both museums and players.
ευχαριστώ
hci.ece.upatras.gr/avouris
Greece 2011
in search for a...

Cataclysmically Epic
[Achievement]